

CLAIMS

1. A method of depositing a MCrAlY-coating (6) on the surface (5) of a single crystal (SX) or directionally solidified (DS) article (1), the method comprising the steps of
 - (a) coating the article (1) only at a local area with the MCrAlY-coating (6) and
 - (b) converting the deposited MCrAlY-coating in single crystal form epitaxial with the base material of the article (1).
2. The method according to claim 1, wherein during step (a) of the claim 1, the article (1) is coated locally by an electroplated method.
3. The method according to claim 1, wherein during step (a) of the claim 1, the article (1) is coated locally by a slurry process, a plasma spray, electron beam physical vapor deposition, by sputtering or any other process used for coating of MCrAlY coating.
4. The method according to any of the claims 1 to 3, wherein during step (a) of the claim 1, the article (1) is coated locally with a γ/γ' or with a γ/β coating.
5. The method according to any of the claims 1 to 4, wherein the deposited MCrAlY-coating is converted in single crystal form by laser remelting.
6. The method according to any of the claims 1 to 4, wherein during step (a) of the method the areas not to be coated are masked with a masked material.
7. The method according to claim 6, wherein the areas not to be coated are masked with wax or organic polymers.

8. The method according to any of the claims 1 to 7, wherein the steps (a) and (b) are repeated at different local areas on the surface (5) of the article (1).

5 9. The method according to any of the claims 1 to 7, wherein the step (a) is repeated at different local areas on the surface (5) of the article (1) before the conversion of the deposited MCrAlY-coating in single crystal form.

10 10. The method according to claim 8 and 9, wherein different areas are coated with different MCrAlY-coatings, the MCrAlY-coatings are selected according to the required properties in said areas in respect to one or a combination of oxidation, corrosion, thermal mechanical fatigue (TMF).

15 11. The method according to any of the claim 1 to 10, wherein the method is used as a repair process for a used MCrAlY-coating (6).

12. The method according to any of the claims 1 to 11, wherein a gas turbine article (1) such as blades or vanes is coated.